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In the Supreme Court of the United States

ENTERGY CORPORATION, PETITIONER

v.

ENVIRONMENTAL PROTECTION AGENCY, ET AL.

PSEG FOSSIL LLC, ET AL., PETITIONERS

v.

RIVERKEEPER, INC., ET AL.

UTILITY WATER ACT GROUP, PETITIONER

v.

RIVERKEEPER, INC., ET AL.

On Writ of Certiorari to the United States Court of Appeals for the Second Circuit

BRIEF OF ENVIRONMENTAL LAW PROFESSORS AS AMICI CURIAE IN SUPPORT OF RESPONDENTS

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INTERESTS OF THE AMICI CURIAE[1]

Amici are professors and scholars who teach, research and write on environmental, natural resources, and energy law. Amici have an interest in seeing that the Court is informed on the appropriate role of costs in the implementation of § 316(b) of the Federal Water Pollution Control Act, 33 U.S.C. § 1326(b), commonly referred to as the Clean Water Act.

Amici are *William L. Andreen*, the Edgar L. Clarkson Professor of Law at the University of Alabama School of Law; *William Wade Buzbee*, Professor of Law at Emory Law School and Director of the Emory Environmental and Natural Resources Law Program; *Ann Carlson*, Professor of Law at UCLA School of Law and the Co-Director of the Frank G. Wells Environmental Law Clinic; *Kim Diana Connolly*, Associate Professor of Law, University of South Carolina School of Law; *Daniel Farber*, Sho Sato Professor of Law, Director, California Center for Environmental Law & Policy (CCELP) Co-Director, UCB Center for Catastrophic Risk Management, University of California, Berkeley; *Robert L. Glicksman*, Robert W. Wagstaff Professor of Law, University of Kansas; *Oliver A. Houck*,

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[1] The parties have consented to the filing of this brief. No counsel for a party authored this brief in whole or in part, and no counsel or party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than amici, their institutions, or their counsel made a monetary contribution to its preparation or submission.

Professor of Law, Tulane University Law School; *Jeffrey Miller*, Vice Dean for Academic Affairs and Professor of Law, Pace University School of Law; *Thomas O. McGarity*, Joe R. and Teresa Lozano Long Endowed Chair in Administrative Law, the University of Texas School of Law; *Robert V. Percival*, Robert F. Stanton Professor of Law, Director, Environmental Law Program, University of Maryland School of Law; *Sidney Shapiro*, Associate Dean for Research and Development and University Distinguished Chair in Law, Wake Forest School of Law; *Dan Tarlock*, Distinguished Professor of Law and Director of the Program in Environmental and Energy Law, Chicago-Kent College of Law; and *Wendy E. Wagner*, Joe A. Worsham Centennial Professor, the University of Texas School of Law.

Amici file this brief solely as individuals and not on behalf of the institutions with which they are affiliated.

SUMMARY OF ARGUMENT

In the Clean Water Act, Congress adopted as a national goal the restoration and maintenance of "the chemical, physical, and biological integrity of the Nation's waters," 33 U.S.C. § 1251, and chose technology-based standards as the central regulatory tools to achieve that goal. The technology-based approach marked a sharp break with the water quality-based approach that had governed until 1972, which predicated pollution control on assessments of how much harm pollution causes receiving waters and determinations of how much pollution it was reasonable to tolerate. Congress found this pre-1972 approach to be "inadequate in

every vital respect." While the water quality-based approach required complex scientific evaluations of the effects of pollution on receiving water and delicate policy determinations of how much pollution was tolerable in each water body, the technology-based approach adopted in the Clean Water Act is much simpler, requiring EPA to focus on the capacity of technology to reduce water pollution rather than on the harms caused by pollution or on making the policy determination of how much pollution it is economically reasonable to tolerate.

Although Section 316(b) of the Clean Water Act addresses cooling water intake rather than pollution discharges, it is otherwise typical of the Clean Water Act's technology-based standards. It directs EPA to set performance standards for cooling water intake structures that reflect the "best technology available for minimizing adverse environmental impact." EPA's task in applying that section involves identifying the "adverse environmental impacts" associated with cooling water intake; identifying the "available" cooling water intake technologies; and determining which of those technologies is "best . . . for minimizing" the identified impacts. By its plain terms, Section 316(b) requires EPA to set performance standards based on the capacity of available technology to minimize impacts like entrainment and impingement.

EPA's task in setting the standards required by Section 316(B) is little different than its task in setting technology-based standards for eliminating pollution discharges. Just as EPA must determine which technologies eliminate the most pollution, EPA must determine which technology minimizes impacts

like entrainment and impingement. In each case, Congress has directed EPA to focus on technological capacity rather than assessing how much environmental harm it is reasonable to tolerate.

Petitioners, however, mistakenly contend that EPA should set standards under Section 316(b) by attempting to balance the environmental benefits against the costs of doing so, and it should undertake this cost-benefit balancing on both a national and a site-specific basis. While this may or may not be a sensible policy suggestion, Congress adopted a very different policy when it enacted Section 316(b) of the Clean Water Act. Congress, not the EPA, has already weighed the costs and benefits and has concluded that it is worth the costs to have intake structures reflect the best available technology for minimizing adverse impacts. Although Petitioners frame their arguments in terms of statutory construction, they are actually mounting a direct attack on the technology-based regulatory approach Congress chose in the Clean Water Act. They effectively ask this Court to turn the clock back to 1971. Under petitioners' view, EPA can ignore the available technology that most reduces the adverse impacts associated with water intake, not because such technology is unaffordable, but because EPA has nearly unlimited discretion to decide that the benefits to water quality do not justify the costs. Yet this ambient-based approach reflects a policy that Congress repudiated in adopting Section 316(b).

Petitioners mistakenly argue that regulating cooling water intake structures without balancing costs and benefits would be irrational and would lead to absurd results. The history of water pollution

regulation before 1972 demonstrates that Congress wisely chose to adopt standards based on technological capacity rather than balancing costs and benefits. Experience under the Clean Water Act vindicates Congress's choice: the technology-based standards adopted under the Clean Water Act have produced significant environmental benefits without causing economic disruption or the absurd results Petitioners predict.

ARGUMENT

I. THE COST-BENEFIT BALANCING THAT PETITIONERS ADVOCATE IS FUNDAMENTALLY AT ODDS WITH THE CLEAN WATER ACT'S TECHNOLOGY-BASED APPROACH

Petitioners advocate a cost-benefit balancing approach to Section 316(b), under which EPA makes detailed assessments of the environmental harms caused by cooling water intake technologies and then compares the monetized benefits of avoiding those harms against the costs of the technologies. Whatever the merits of that regulatory approach, it is fundamentally inconsistent with the Clean Water Act. In enacting the Clean Water Act, Congress made a sharp break with previous regulatory efforts that predicated regulatory controls on a determination that industrial activities cause more harm to water quality than regulators considered reasonable. Congress concluded that assessment of environmental harm was a scientific morass that impeded effective regulation and that water quality was gravely threatened by giving regulators power to determine how much environmental harm is

reasonable. Cost-benefit balancing of the sort advocated by petitioners, in contrast, would return regulation to the pre-Clean Water Act era.

A. In the Clean Water Act, Congress Adopted Technology-Based Standards That Do Not Depend on Proof of Environmental Harm

The most fundamental change wrought by the Clean Water Act was Congress's decision to dispense with proof of environmental harm as a predicate to curtailing activities that affect our nation's waters. In common law nuisance actions, water pollution could only be enjoined if the plaintiffs made the very difficult showing that pollution caused demonstrable harms to specific water bodies.[3] Congress continued this common law approach when it first enacted federal water pollution law in the Water Pollution Control Act of 1948, Pub. L. No. 80-845. Under that Act and several subsequent ones, the federal and state governments sought to keep water pollution to acceptable levels by implementing site-specific water quality standards. These standards varied depending on each state's designated uses for particular water bodies—lakes and rivers designated for industrial use were governed by lower water quality standards than waters designated for fishing, swimming, and recreation, for example.[4]

Like cost-benefit balancing, the water quality approach was based on the assumption that pollution

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[3] *See, e.g.*, New York v. New Jersey, 256 U.S. 296, 311-12 (1921); Missouri v. Illinois, 200 U.S. 496, 517, 526 (1906).

[4] *See* Water Quality Act of 1965, Pub. L. No. 89-234, § 5(a), 79 Stat. 903, 908.

was acceptable "up to a point of unreasonableness." Rodgers, Environmental Law: Air and Water § 4.1 at 13 (2d ed. 1986). Under the water quality-based approach, regulatory controls could be imposed only based on proof that particular pollution discharges caused demonstrable environmental harms.[5] Regulators were required to assess the effects of a myriad of industrial pollutants on human health, fish, shellfish, and other aquatic organisms; to determine, based on the assessment of these effects, the acceptable concentrations of each pollutant, considering various uses of water bodies; and then assess for each industrial discharger whether its discharges contributed to pollution levels above the acceptable concentrations. *See* Houck, *supra* note 4, at 10,528. The water quality-based approach proved unworkable. Regulators could not determine with precision what pollutant thresholds were safe for human health and for aquatic life, or how to implement them. Water quality-based programs produced endless rounds of finger-pointing and little cleanup.[6]

When Congress enacted the Clean Water Act in 1972, it concluded that the water quality-based approach to pollution control had been a dismal

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[5] *See* Water Pollution Control Act of 1948 § 2(d)(1); Frank J. Barry, *The Evolution of the Enforcement Provisions of the Federal Water Pollution Control Act*, 68 Mich. L. Rev. 1103, 1105 (1970); Oliver A. Houck, *The Regulation of Toxic Pollutants Under the Clean Water Act*, 21 Envtl. L. Rep. 10,528 (1991).

[6] *See* Houck, supra note 4.

failure, indeed "inadequate in every vital aspect."[7] As this Court has explained, the failure "stemmed from the character of the standards themselves, which focused on the tolerable effects rather than the preventable causes of water pollution." EPA v. California, 426 U.S. 200, 202 (1976). The process for controlling pollution was far too cumbersome because it depended on evaluating whether pollution discharges caused environmental harms, an evaluation that was fraught with scientific uncertainties. *See id.* at 204 (describing the difficulties of "work[ing] backward from an overpolluted body of water to determine which point sources are responsible and which must be abated"). As Congress concluded, assessments of environmental harm were plagued with insolvable scientific uncertainties:

> We have seen a great deal of evidence indicating that this water quality standards system of regulation assumes more knowledge about our complex ecosystem than we actually have. . . . [T]he history of our water pollution control program suggests that State and Federal governments will continue to founder

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[7] *See* Weinberger v. Romero-B*arcelo*, 456 U.S. 305, 316 (1982) ("Congress passed the 1972 Amendments because it recognized that 'the national effort to abate and control water pollution has been inadequate in every vital aspect.'") (quoting Sen. Comm. Rpt., S. Rep. No. 92-414, p.7 (1971), *reprinted in* U.S. Code Cong. & Admin. News 3674); *EPA v. Cal.*, 426 U.S. at 202 (declaring that the federal "program based on water quality standards. . . proved ineffective").

> on the staggering complexity of this control system.[8]

The complexity of the regulatory task allowed polluters to exploit the scientific uncertainties to delay implementation of environmentally sound controls.[9]

In 1972 Congress sought to avoid saddling regulators with the impossible task and "staggering complexity" of assessing the environmental harms caused by industrial activities and determinations of the tolerable amounts of environmental harm, embarking instead on a novel technology-based approach. The Act replaced the federal goal of reducing water pollution to acceptable levels with "the national goal that the discharge of pollutants into the navigable waters be eliminated." 33 U.S.C. § 1251(a); *see also* EPA v. Nat'l Crushed Stone Assn., 449 U.S. 64, 69 (1980). To achieve the goal, Congress turned to the causes of water pollution and away from their effects, directing that EPA establish technology-based effluent limitations. These standards seek to eliminate all discharges if such elimination is "'technologically and economically achievable." E.I. du Pont de Nemours v. Train, 430 U.S 126 (1976).[10]

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[8] 1972 House Report, Legislative History of the Water Pollution Control Act Amendments of 1972, at 865. *See also* 1972 Leg. Hist. at 1304 (Sen. Cooper).

[9] *See* 1972 Leg. Hist. at 209 (statement of Sen. Tunney).

[10] Water quality standards remain operable under the Clean Water Act as a backup when uniform technology-based standards are insufficient to meet local water quality standards. *See* 33 U.S.C. § 1313; James R. May, *The Rise and*

The technology-based approach imposes increasingly stringent effluent limitations geared to technological capacity. See Train, 430 U.S. at 115 n.3 ("[A] discharger's performance is now measured against strict technology-based effluent limitations . . . to which it must conform, rather than against limitations derived from water quality standards to which it and other polluters must collectively conform."). Effluent limitations adopted in the Clean Water Act do not require any assessments of the environmental harms caused by pollution discharges.[11] Congress simply assumed that all water pollution is harmful and should be eliminated. The Clean Water Act therefore restricts pollution discharges based on the capacity of technology to do so and without any need for proof that discharges cause any environmental harm.[12]

Repose of Assimilation-Based Water Quality, Part I: TMDL Litigation, 34 Envt'l L. Rep. 10247 (Env. L. Inst. 2004).

[11] *See Train*, 430 U.S. at 115 n.3; Arkansas v. Oklahoma, 503 U.S. 91, 101 (1992).

[12] Congress employed a similar technology-based regulatory approach in the other major pollution control statutes, eschewing any requirement that proof of environmental harm be shown before pollution control measures were adopted. For instance, in the Clean Air Act of 1970, Pub. L. No. 91-604, 84 Stat. 1676, codified as amended at 42 U.S.C. § 7401-7671g, Congress established technology based standards on "major emitting facilities," ("best available control technology), 42 U.S.C. § 7449(3), "major stationary sources," ("lowest achievable emission rate"), 42 U.S.C. § 7501(3) and 7503(a)(2); and for "major sources" of hazardous emissions § 7412(d)(2) ("maximum degree of reduction ... achievable"). *See also* Resource Conservation and Recovery Act, Pub. L. No. 94-580, 90 Stat. 2795 (codified as amended

Rather than continue to predicate the protection of waters on what Senator Muskie described as the impossible "search for a precise link between pollution and water quality," the Act sets standards based on "the best control technology." For existing sources of water pollution, the first phase standard required that, by July 1977, polluters meet performance standards based on the "best practicable control technology currently available" (BPT). 33 U.S.C. 1311(b)(1)(A), *see* Pet. App. 97a. The second step was to require these dischargers to meet stringent performance standards for conventional pollutants based on "best conventional pollution control technology" (BCT), and for toxic and nonconventional pollutants based on the "best available technology economically achievable" (BAT). 33 U.S.C. § 1311(b)(2)(A), (E), *see* Pet. App. 97a. Rodgers, 2 Env. Law: Air and Water § 4.28 at 411. New sources were to be required to use the "best available demonstrated control technology, processes, operating methods, or other alternatives" (BADT). 33 U.S.C. § 1311(b)(1)(B), *see* Pet. App. 97a.

Because the promulgation of technology-based standards does not involve assessments of environmental harm, they are far easier to set and enforce, and much more efficient to administer, than other regulatory methods that aim to establish a link between pollution discharges and harm. *See* Wendy E. Wagner, The Triumph of Technology-Based Standards, 2000 U. Ill. L. Rev. 83, 94-107 (2000).

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at 42 U.S.C. §§ 6901-6992K) (requiring EPA to set technology-based standards for facilities that dispose hazardous wastes).

B. None of the Clean Water Act's Technology-Based Standards Allow Regulators to Undertake the Sort of Cost-Benefit Balancing That Petitioners Advocate

The enormously complex scientific and regulatory undertaking petitioners suggest for Section 316(b) would be anomalous within the context of the Clean Water Act because it would focus regulatory attention less on evaluation of technological capacity than on when it is reasonable to allow environmental harms. This is precisely the analysis Congress eschewed in enacting the Clean Water Act. As the D.C. Circuit has explained, the Clean Water Act does not embody the "optimal pollution theory" that "that there is a level or type of pollution that, while technologically capable of being controlled, is uneconomic to treat because the benefit from treatment is small and the cost of treatment is large."[14] Such a theory relies precisely on the premise rejected by Congress that regulators have "adequate information about the effects of pollution to set an optimal test, and adequate political and administrative flexibility to keep polluters at that level."[15]

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[14] Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1041 n.41 (D.C. Cir. 1978).

[15] *Id.*; *see also* City of Arcadia v. EPA, 411 F.3d 1103, 1105 (9th Cir. 2005) ("Technology-based regulations reduce levels of pollution by requiring a discharger to make equipment or process changes, without reference to the effect on the receiving water."); Am. Petroleum Inst. v. EPA, 858 F.2d 261, 265 (5th Cir. 1988) ("[T]he impact of a particular discharge upon the receiving water is not an issue to be considered in setting technology-based limitations.")

Petitioners attempt to paper over the anomaly that the technology-based standard in Section 316(b) depend both on site-specific assessments of water quality and determinations of how much environmental harm is reasonable by arguing that all of the Clean Water Act's technology-based standards actually allow for the sort of broad cost-benefit balancing they advocate for Section 316(b). Entergy Br. 38-42; UWAG Br. 35-37. Petitioners are wrong. None of the Clean Water Act's technology-based standards involve the sort of cost-benefit balancing they read into Section 316(b). As discussed above, Congress deliberately chose not to hold the protection of the nation's waters hostage to the resolution of insolvable scientific conundrums or determinations of when environmental harms are reasonable.

Only two of the Clean Water Act's technology-based standards—"best practicable control technology currently available" (BPT) and "best conventional pollutant control technology" (BCT), *see* 33 U.S.C. § 1314(b)(1)(B),(b)(4)(B)—call for even limited consideration of the relationship between costs and benefits, and those sections do not involve anything like the broad cost-benefit balancing petitioners read into Section 316(b).[16] The limited cost-benefit analysis

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[16] Even if petitioners were right that the BPT an BCT provisions authorize broad cost-benefit balancing, it would undermine rather than support their position because the express inclusion of language mandating cost-benefit comparisons in applying BPT and BCT, and the absence of such language in Section 316(b), can only be read to mean that Congress did not intend that standards under Section 316(b) would be based on cost-benefits comparisons. *See Keene* Corp. v. United States, 508 U.S. 200, 208 (1993)

set forth in BPT does not involve any assessment of environmental harms or a determination of when it is economically reasonable to accept such harms. Instead, EPA must "consider" "the total cost of application of technology in relation to the effluent reduction benefits to be achieved from such application." 33 U.S.C. § 1314(b)(1)(B). The courts have uniformly recognized that "effluent reduction benefits" refers simply to how much pollution a technology is capable of reducing and does not involve any considerations of water quality effects. As the D.C. Circuit succinctly stated, "Effluent reduction occurs whenever less effluent is discharged."[17] This reflects Congress's policy choice of directing EPA to focus on the causes of pollution, not the effects.[18]

What EPA does not do in setting performance standards using BPT and BCT, and what EPA was not authorized to do, is to attempt to assess the environmental harms that are caused by the discharge of pollutants and to determine whether the

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("When Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.").

[17] Weyerhaeuser Co. v. Costle, 590 F.2d 1011, 1044 n.49 (D.C. Cir. 1978); *see also* Appalachian Power Co. v. EPA, 671 F.2d 801, 809 n.3 (4th Cir. 1982).

[18] The same is true of Congress's directions for BCT, which instruct EPA to consider "the reasonableness of the relationship between the costs of attaining a reduction in effluents and the effluent reduction benefits derived." 33 U.S.C. § 1314(b)(4)(B). As with BPT, the "benefits" side of the comparison used in setting BCT is the amount of pollution that can be reduced, not benefits to water quality.

environmental benefits of preventing those harms are worth the costs that would be imposed on polluters. Congress has already established the national goal of eliminating all water pollution, and EPA could not properly conclude that advancing toward that goal is not worth the costs. Accordingly, even when Congress expressly authorized consideration of the relationship between costs and benefits, Congress did not authorize EPA to do what petitioners argue EPA should do in setting standards under Section 316(b): assess whether a dollar spent on technology saves a dollar's worth of fish.[19]

The Clean Water Act's other technology-based standards provide even less support for the broad-ranging cost-benefit balancing petitioners advocate for Section 316(b). In setting effluent limitations based on the "best available technology economically achievable," or BAT, EPA is not directed to compare compliance costs with environmental benefits at all. Instead, Congress directed that effluent limitations under BAT "shall require the elimination of discharges of all pollutants" if "such elimination is technologically and economically achievable." 33 U.S.C. § 1311(b)(2)(A). By its terms, BAT mandates the maximum pollution reduction that is technologically and economically achievable.[20] In

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[19] *See* Rodgers, Environmental Law: Air and Water 432 (2d ed. 1986) (explaining that "cost-sensitive" standards such as BPT or BAT are far different than standards justified by formal, monetized cost-benefit analyses, where "every dollar spent on technology must return at least a dollar in enhanced water quality").

[20] *See* National Crushed Stone Ass'n, 449 U.S. at 74 (BAT "represents a commitment of the maximum resources

mandating BAT, Congress already undertook the relevant balancing when it declared the national goal of eliminating water pollution. Congress did not conclude that pollution should be limited up to the point when benefits outweigh costs; instead, in mandating BAT, Congress ordered that pollution should be eliminated to the maximum extent technologically and economically possible.[21]

In any event, this Court has already recognized that the BAT provision does not authorize cost-benefit balancing.[22] That conclusion, based on the plain text, structure, and goals of the Clean Water Act, is also fully supported by its legislative history. As Senator Muskie, the chief Senate sponsor of the Clean Water Act explained, "In making the determination of 'best available' for a category or

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economically possible to the ultimate goal of eliminating all polluting discharges.").

[21] Petitioners' claim that having EPA consider "such other factors as [it] deems appropriate" authorizes cost-benefit analysis for BAT is incorrect. Entergy Br. 9, 40. The word "such" is to be interpreted in accordance with the words it modifies, none of which suggest Congress has authorized EPA to engage in a cost-benefit analysis in setting BAT. See Environment America Br. Part I.

[22] *See* EPA v. National Crushed Stone Assn., 449 U.S. at 71 ("Similar directions are given the Administrator for determining effluent reductions attainable from the BAT except that in assessing BAT total cost is no longer to be considered in comparison to effluent reduction benefits."); Am. Textile Mfrs. Inst., Inc. v. Donovan, 452 U.S. 490, 510 n.30 (1981) (stating that, in contrast to the BPT determination, in making a BAT determination "the Administrator is directed to consider total cost, but not in comparison with effluent reduction benefits.").

class, the Administrator is expected to apply the same principles involved in making the determination of 'best practicable'... *except as to cost-benefit analysis*."[23] Moreover, EPA's longstanding position and practice has been that BAT determinations do not involve cost-benefit balancing.[24]

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[23] Legislative History of the Water Pollution Control Act Amendments of 1972, 93rd Cong., 1st Sess., 170 (Comm. Print 1973) (emphasis added). Petitioners' attempts to counter Senator Muskie's remarks by quoting those of Representative Clausen ring hollow. Entergy Br. at 35. Representative Clausen's statement that Section 316(b) should be read as to allow BTA at an "economically practicable cost" is not inconsistent with Muskie's position that the "linguistically similar" BAT does not require a "cost-benefit analysis." The lower court's "cost feasibility" approach seems in concert with Representative Clausen's view of the role of costs in construing Section 316(b). To the extent the comments appear to be inconsistent, the view of Senator Muskie—a principal Senate sponsor of the Clean Water Act—have long been read as authoritative. *See, e.g., Train*, 430 U.S. at 129; *National Crushed Stone Assn.*, 449 U.S. at 71 n.10.

[24] In the last thirty-five years, although EPA has established hundreds of effluent limitations using BAT, *see* http://www.epa.gov/waterscience/guide/industry.html, EPA has not set BAT performance standards based on cost-benefit analysis and has repeatedly resisted demands by industry to do so. *See, e.g.*, Texas Oil & Gas Ass'n v. EPA, 161 F.3d 923, 936 (5th Cir. 1998) (agreeing with EPA that it could set BAT without undertaking cost-benefit analysis); Rybachek v. EPA, 904 F.2d 1276, 1290-91 (9th Cir. 1990) (same). To be sure, EPA has complied with Executive Order 12,291 (February 17, 1981) and its successors, which require agencies to undertake cost-benefit analysis and submit them to the

Thus, contrary to petitioners' suggestions, the Clean Water Act's technology-based standards authorize neither assessment of environmental harms nor comparison of the benefits of avoiding those harms against the costs of doing so. To authorize EPA to conduct such wide-ranging cost-benefit balancing under Section 316(b) would be contrary to the technology-based regulatory approach adopted in the Clean Water Act.

C. The Clean Water Act's Technology-Based Regulatory Approach Has Dramatically Improved Water Quality Without Producing Absurd Results

Petitioners and their amici warn gravely that absurd results are sure to follow if EPA sets standards for intake structures without balancing costs and benefits. EPA will have no choice, petitioners claim, but to require industry to adopt cripplingly expensive technology with little or no environmental benefits. See, e.g., Entergy Br. at 50-51; API Br. at 4. If respondents prevail, petitioners warn, EPA would require industry to incur "massive technology costs" in a misguided attempt to save every fish. Entergy Br. at 50. Indeed, EPA would be compelled to tell a powerplant operating on the Great Salt Lake to spend untold millions of dollars to protect nonexistent fish. Entergy Br. at 50.

Office of Management and Budget before issuing significant regulations, but those executive orders do not (and could not) change the *substance* of the statutory standards set by Congress.

The zeal of petitioners and their amici for cost-benefit analysis knows no bounds, as they claim that virtually every known calamity will occur if EPA determines the "best technology available" without balancing compliance costs against environmental benefits. Petitioners and their amici apparently are not joking when they claim that the failure to weigh costs and benefits under Section 316(b) will cause "massive impacts" on the American economy," API Br. 19; exacerbate climate change, NEI Br. 3-6, 22; cause "substantial uncertainty under every regulatory statute," API 23; "destroy the ability of regulatory agencies to regulate," API 29; cripple the nation's energy supply by shutting down untold baseload fossil fuel fired and nuclear power plants, Entergy Br. 3, NEI Br. 19, and oil refineries and platforms, API Br. 17; cause national blackouts and brownouts, NEI Bt. 20, CCEEB Br. 12-14; have a "very negative impact on the reliability of the electrical supply system." UWAG Br. 11; require 20 new coal-fired power plants to compensate for the "energy penalty" of compliance, UWAG Br. 20-21, NEI Br. 16, increase air pollution dramatically, UWAG Br. 28; harm protected species including the Florida Manatee, UWAG Br. 55-56; decrease national security, API Br. 6, and undermine "fundamental principles of cooperative federalism," State's Br. on Behalf of Petitioners 3-7, all in furtherance of the lower court's zeal to impose a "one size fits all" stratagem, *id.* at 2, to save "every possible fish." Entergy Br. 36, 49.

Industry has long hurled similarly dire predictions of doom at technology based standards.[25] Yet such dire consequences have not occurred in thirty-six years of experience under the Clean Water Act. Implementing BPT, BCT, BAT, and BADT, EPA has issued hundreds of effluent limitations under the Clean Water Act that were based on the capacity of technology to reduce pollution discharges, without balancing compliance costs and environmental benefits.[26] These standards regulate discharges by every major industrial sector. Petitioners cannot point to any example, however, where the failure to conduct broad-ranging cost-benefit balancing in setting technology-based standards has led to absurd results. Indeed, while industry has brought dozens of suits to challenge effluent limitations set by EPA, in no case has a court ruled that the absence of cost-benefit balancing was irrational or led to absurd results.

On the contrary, implementation of the Clean Water Act's technology-based effluent limitations has dramatically reduced water pollution and improved water quality across the nation. When the Clean Water Act was enacted, only about one-third of surface waters met water quality goals. By 2000, two-thirds of waters met their goals.[27] The Clean Water

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[25] *See e.g.*, Percival et al., ENVIRONMENTAL REGULATION, LAW, SCIENCE, AND POLICY, 564-568 (tailpipe emission standards) (5th Ed., Aspen 2006).

[26] *See* http://www.epa.gov/waterscience/guide/industry.html (listing effluent guidelines by industrial category).

[27] *See* EPA, Water Quality Conditions in the United States: A Profile from the 2000 National Water Quality Inventory 1

Act's successes are directly related to the promulgation of technology-based standards. Within three years after the promulgation of BAT standards, industrial discharges of toxins into the nation's waters dropped from 412 to 197 million pounds per year.[28] To be sure, these technology-based effluent limitations have imposed considerable costs on industry, as Congress anticipated. EPA has estimated that the Clean Water Act has required regulated industries to increase their pollution control costs by $3 billion to $5 billion per year.[29] No evidence suggests, however, that these costs have been crippling for any sector. If anything, the opposite is true. Technology based standards have helped to support the national economy and made the nation more competitive. For example, EPA has concluded that the annual monetized benefits resulting from these water pollution efforts is $11 billion, far in excess of the costs.[30] Accordingly, even

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(2001), http://www.epa.gov/305b/2000report/factsheet.pdf; EPA, *National Water Quality Inventory: Report to Congress, 2002 Reporting Cycle: National Studies of Water Quality* (2007).

[28] EPA, National Water Quality Inventory: 1994 Report to Congress." (1995); Adler, Landman and Cameron, The Clean Water Act 20 Years Later, Island Press (1993).

[29] *See* EPA, *A Retrospective Assessment of the Costs of the Clean Water Act: 1972 to 1997* (2000) at 7-3, available at http://www.epa.gov/waterscience/economics/costs.pdf.

[30] *See* EPA, *A Benefits Assessment of Water Pollution Control Programs Since 1972: Part 1, The Benefits of Point Source Controls for Conventional Pollutants in Rivers and Streams* (2000) at viii, available at http://www.epa.gov/waterscience/economics/assessment.pdf.

without the use of broad cost-benefit balancing, the benefits from effluent limitations far exceeds the costs. At the same time, there is no credible evidence that the costs of Clean Water Act compliance have adversely affected either the American economy or the nation's competitiveness.[31]

As with the other technology based standards, EPA has ample authority under the terms of Section 316(b) to avoid the absurdities petitioners predict. For instance, petitioners and their amici repeatedly and erroneously argue that, in the absence of cost-benefit balancing, industry would be required to spend enormous amounts of money to save even one fish. *See, e.g.*, Entergy Br. 36. That is plainly untrue. Section 316(b) gives EPA discretion to conclude that the loss of one fish is de minimis and that its survival is not necessary for "minimizing adverse environmental impact."[32] By the same token,

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[31] *See* William L. Andreen, *Water Quality Today—Has the Clean Water Act Been a Success?*, 55 Ala. L. Rev. 537, 542 (2004) (reviewing studies).

[32] The de minimis doctrine spares agency resources for more important matters. Public Citizen v. FDA, 831 F.2d 1108, 1112 (D.C. Cir. 1987). Congress has much bigger fish to fry than respondents' "one fish." EPA estimates that but for intake structures, 3.4 billion more fish in the U.S. would survive for at least one year, roughly the age of fecundity and commercial viability for many species. *See* Pet. App. 122a, 168a-174a. Proper application of Section 316(b) will save billions of fish, every year, and hundreds of billions of fish over the lifetime of a typical powerplant. The far-fetched hypothetical that EPA would concern itself over saving one fish is belied by the massive environmental reality actually at issue.

petitioners are wrong to assert that, in the absence of cost-benefit analysis, industry will be required to employ costly control technology even when they are operating in water bodies that have little or no aquatic life. Technology-based standards do not require that industry adopt particular forms of technology but instead are performance standards based on the available technology. *See National Wildlife Federation v. EPA*, 286 F.3d 554, 558 (D.C. Cir. 2002). A facility that may meet the performance standard because of the nature of the water body in which it operates thus would not need to adopt any new controls.

If EPA were to adopt regulations implementing Section 316(b) that resulted in any of the absurdities petitioners predict, petitioners would of course be free to challenge the standard as arbitrary, capricious, and contrary to law under the Administrative Procedure Act. The remote and entirely theoretical possibility that EPA may someday adopt irrational regulations implementing Section 316(b), however, provides no basis to construe the provision contrary to its plain text, which requires EPA to set standards based on the best technology available for minimizing adverse environmental impacts, and provides no authority to set standard that purport to balance costs and benefits.[33]

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[33] Petitioner Entergy mistakenly relies on Weinberger v. Romero-Barcelo, 456 U.S. 305, 316 (1982) to support reading the Clean Water Act to provide EPA broad discretion. Petitioners Br. 37. *Weinberger* involved prosecutorial discretion, not statutory discretion..

II. SECTION 316(b) ESTABLISHES A TECHNOLOGY-BASED STANDARD THAT DOES NOT AUTHORIZE BALANCING ENVIRONMENTAL BENEFITS AND COMPLIANCE COSTS

As with the provisions laying out the Act's other technology-based standards, Section 316(b) directs EPA to determine performance standards based solely on technological capacity—in this case, the capacity of technology to minimize the adverse environmental impacts of intake structures. As with the Clean Water Act's other technology-based standards, Section 316(b) sets a standard that does not involve any determination of when it is economically reasonable to allow environmental harms.

Petitioners, however, argue that Section 316(b) should be read to authorize EPA to set standards for intake structures based on cost-benefit analysis simply because Section 316(b) does not expressly prohibit it. As Petitioner Entergy declares, "[i]n the absence of statutory language clearly signaling congressional disapproval, cost-benefit analysis is *always* reasonable." Entergy Br. 56. That argument, however, runs counter to basic principles of statutory construction and administrative law and is inconsistent with the text and structure of Section 316(b).

A. The Absence of Express Prohibition to Set Standards Based on Cost-Benefit Analysis Is Not Tantamount to Congressional Authorization

Petitioners repeatedly err in how they frame the textual issue before this Court. They mistakenly assert that EPA is entitled to deference because the text of Section 316(b) does not "foreclose" or "forbid" or "prohibit" cost-benefit analysis. See, e.g., Entergy Br. 55; UWAG Br. 26, 31, 32. Under petitioners' understanding of executive agencies' authority, EPA is free to set standards based on cost-benefit analysis (or any other methodology it might choose) unless the statute "unambiguously forbid[s]" it. UWAG Br. at 32. To be sure, when it is unclear whether a statute authorizes a particular regulatory approach, an agency is entitled to deference if its chosen approach is reasonable within the statutory context. *See Chevron U.S.A. Inc. v. NRDC*, 467 U.S. 837 (1984). But there is no principle of statutory construction or agency authority that remotely suggests that an agency has power to do whatever it wants unless Congress has unambiguously forbidden it.

By the same token, there is no support for the notion that cost-benefit analysis is prohibited unless Congress expressly authorized it, just as there is no support for petitioners' contrary suggestion that cost-benefit analysis is presumptively authorized unless Congress expressly prohibited it. As with other questions of agency authority, whether cost-benefit analysis is authorized depends on ordinary principles of statutory construction. In the context of the Clean Water Act, Congress gave careful consideration to the question of how EPA should consider compliance costs

in setting performance standards. Whether those standards should be based on cost-benefit analysis is a fundamental policy choice that Congress cannot be presumed to have concealed: "Congress, we have held, does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions—it does not, one might say, hide elephants in mouseholes." Whitman v. Am. Trucking Assns., Inc., 531 U.S. 457, 468 (2001).

EPA would be empowered to set standards under Section 316(b) based on cost-benefit analysis only if Congress authorized it. *Id.* ("[T]o prevail in their present challenge, respondents must show a textual commitment of authority to the EPA to consider costs in setting NAAQS."). The ordinary meaning and structure of Section 316(b), however, show Congress did not grant EPA the fundamental authority to conduct a cost benefit analysis.

B. The Plain Text of Section 316(b) Does Not Authorize Cost-Benefit Analysis

Petitioners and their amici strenuously and extensively argue that it would be "rational," Entergy 4, "reasonable," UWAG Br. 4, "flexible," ACC Br. 4, or "sound," AEI Br. 13, to authorize EPA to conduct cost-benefit analysis under Section 316(b), but those arguments are both wrong and beside the point. As EPA acknowledges, "the question presented here is not whether or to what extent cost-benefit analysis is a good thing." EPA Br. 14.[34] The issue instead is

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[34] Whitman v. Am. Trucking Assns., Inc., 531 U.S. 457, 465, (2001) (Scalia, J.) ("Were it not for the hundreds of pages of briefing [industry challengers] have submitted on this issue,

whether Congress *has authorized* EPA to use a cost-benefit analysis in applying Section 316(b). The text, objective, and structure of Section 316(b) demonstrate that it did not.[35]

1. The Text of Section 316(b) Focuses on Technological Capacity

Under Section 316(b), EPA properly identified entrainment and impingement of fish and shellfish as the primary "adverse environmental impacts" associated with cooling water impact structures. EPA Br. 2, 6; Pet. App. 3a, 226a. Having done so, EPA was required to determine which of the "available" technologies is "best" for "minimizing" those impacts. A technology is available if it is "present and ready for use," but not if it is so costly as to be unobtainable. *See* Environmental Respondents Br. 25. Once EPA identifies the pool of available technologies, it must determine which of those technologies is "best . . . for minimizing" impingement and entrainment. "Best" means "surpassing all others in excellence," and "minimize" means to reduce to the "smallest possible amount, extent, size or degree." *Id.*

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one would have thought it fairly clear that this text does not permit the EPA to consider costs in setting the standards.")

[35] Petitioners' reliance on Cass Sunstein's writings is inapposite. Entergy Br. 26 n.8. Professor Sunstein would apply his cost benefit "default principles" only "*[i]f* Congress has not referred to costs ... [or] resolved the question whether costs should be considered." Cass R. Sunstein, *Cost-Benefit Default Principles*, 99 Mich. L. Rev. 1651, 1684-85 (2001) (emphasis added). But of course the Clean Water Act *does* refer to costs and resolves the questions concerning their role, even as in Section 316(b) when it has not required a cost benefit analysis.

25-26.[38] Thus, under the plain terms of Section 316(b), technology that allows the smallest possible amount of impingement and entrainment is the "best" for "minimizing" those impacts.

Section 316(b), like the Clean Water Act's other technology-based standards, focuses on technological capacity, not on how much environmental harm should be allowed. Petitioners, however, read into Section 316(b) nearly unlimited discretion to pick the technology that is "best," not at minimizing adverse impacts, but "best" based on a "balancing of complex goals." Entergy Br. 32-33. Petitioners thus argue that the "best technology available for minimizing adverse environmental impact" is not necessarily the technology that succeeds at reducing adverse environmental impacts the most but instead is "the most suitable or desirable technology available for reducing such impact, to whatever extent the decisionmaker believes appropriate in light of competing values." Entergy Br. 36. Petitioners simply ignore the statutory language in asserting that EPA can pick whatever technology it considers "best" unmoored from a determination of whether the

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[38] See James R. May and Maya van Rossum, *The Quick and the Dead: Fish Entrainment, Entrapment, and the Implementation and Application of Section 316(b) of the Clean Water Act*, 20 Vt. L. Rev. 373, 385-86 (1995). Petitioner's elaboration on the word "minimize" defies etymology. Petitioner Br. 34. Using a word improperly does not vitiate the word's actual meaning. Just because someone uses one word (here, "minimize") when the meaning of another word is intended ("reduce) (gas consumption, workplace mishaps) does not mean that "minimize" now means "reduce."

technology is best "for minimizing adverse environmental impact."

Likewise, petitioners' construction of how EPA should assess the "adverse environmental impacts" ignores the Clean Water Act's technology-based approach. Petitioners construe the phrase to give EPA authority to consider when protecting aquatic life will produce "actual environmental benefit." Entergy Br. 2.; *id.* at 46-49; UWAG Br. 6-11. Petitioners assert that EPA should consider that all fish are not created equal; some fish are "nuisance fish that federal and state regulators want to eliminate," while other fish are worthy of being saved. Entergy Br. 23. According to petitioners, a loss of fish may cause varying degrees of "adverse environmental impact" depending on how aquatically rich the water body is. Entergy Br. 48; UWAG Br. 9-10. Petitioners thus would transform Section 316(b) into a water quality-based approach, under which regulators would attempt to assess exactly how much environmental harm a loss of fish and other organisms would cause in the context of particular water bodies and then determine whether such harm is acceptable.

Petitioners' approach is precisely what Congress rejected when it chose to ground the protection of waters on technological capacity.[39] As the Fourth Circuit explained, setting technology-based standards based on local environmental conditions "would

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[39] *See, e.g.*, Appalachian Power Co. v. EPA, 671 F.2d 801, 809 n.3 (4th Cir. 1982); Hercules, Inc. v. EPA, 598 F.2d 91, 116 (D.C. Cir. 1978); Association of Pacific Fisheries v. EPA, 615 F.2d 794, 805 (9th Cir. 1980).

violate the plain intent of the [Clean Water Act] that effluent limitations and guidelines are to be based entirely upon technological standards and may not be varied or modified due to the nature or quality of the receiving waters."[40]

In Section 316(b), Congress did not assign EPA the task of assessing the *value* of fish and other aquatic life lost by entrainment and entrapment, nor is EPA authorized to make the policy determination of how many fish it is economically reasonable to protect. Congress simply directed EPA to examine the capacity of available technology to minimize impingement and entrainment (or any other impacts EPA properly identifies) and to set a performance standard based on the technology that best minimizes those effects. As with the determination of technology's capacity to reduce water pollution, Section 316(b) focuses on technological capacity to minimize entrainment and impingement and does not call on EPA to determine how much impingement and entrainment should be curtailed.[42]

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[40] Appalachian Power, 671 F.2d at 806.

[42] It is simply wrong to say that interpreting Section 316(b) to authorize a cost-benefit analysis "reflects 30 years of agency practice" Entergy Br. 23, or a "longstanding policy." EPA Br. *in passim*. If anything, EPA's position for four decades was just the opposite, that "there is *nothing* in Section 316(b) indicating that a cost/benefit analysis *should be done*." In re Public Service Co. of N.H. et al. (Seabrook Station Units 1 and 2) National Pollutant Discharge Elimination System Permit, 10 Env't Rep. Cas. (BNA) 1257, 1261 (EPA June 17, 1977) (emphasis added); *see* J.A. 60. To the extent it has considered cost effectiveness under Section 316(b), it has not compared marginal costs with marginal environmental

2. The Text of Section 316(b) Does Not Mandate a Particular Technology

Contrary to petitioners' suggestion, Section 316(b) does not mandate a particular technology—closed cycle cooling towers—to minimize the adverse environmental impacts of every existing intake structure. Entergy Br. 13-14. The lower court did not construe Section 316(b) as demanding either closed cycle cooling for every Phase II facility, or that industry pay "hundreds of millions or billions per facility regardless of the cost or actual environmental benefit," Entergy Br. 2. The lower court did not read the statute as mandating "the survival of every possible fish." Entergy Br. 36. Instead, as the lower court held and Petitioners concede, Entergy Br. 14, EPA has within its discretion expressed "best technology available for minimizing adverse environmental impact" as a range of performance parameters, including an 80 to 95 percent reduction in impingement and a 60 to 90 percent reduction in entrainment for listed waters, such as the Great Lakes, estuaries and tidal marshes, compared to a baseline "zero technology alternative," 69 Fed. Reg. at 41,590-41,601; Pet. App. 260a.

Thus, Section 316(b) authorizes EPA to enable industry to comply by choosing among a "suite" of innovative technologies, including (1) advanced

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benefits. Rather, EPA has considered the monthly "marginal rate increase" to customers of instituting a particular technology, such as closed-cycle cooling towers. May and van Rossum, 471-479. In reality, EPA has not seen fit to conduct a cost-benefit analysis in applying Section 316(b) to an existing facility.

removal and return systems, namely, traveling, disk, drum, and fixed screens; (2) active exclusion technologies, namely, wedgewire screens, perforated pipes, radial wells, porous dikes, and artificial filter beds; and (3) physical and behavioral diversion and/or avoidance technologies, such as louvers, velocity caps, and (4) physical and hydraulic barriers such as sound barriers or bubble curtains. *Id; see* May and Van Rossum, at 456-459 (discussing availability of each means of best technology available under Section 316(b)); State Br. as Respondent, 9-12 (discussing state implementation of each means). These other available technologies also happen to be a fraction of the cost of closed-cycle cooling.

Section 316(b) does not, however, authorize EPA to weigh costs against quantified environmental benefits in establishing its performance standard. But for EPA's mistaken reliance on a cost-benefit analysis that Section 316(b) does not authorize, the performance parameters might have been more stringent, say, calling for a 90 to 98 percent reduction in impingement – instead of 80-95 percent – and a 80 to 95 percent reduction in entrainment – instead of 60-90 percent. While EPA has discretion to express technology based standards under Section 316(b) in terms of a range of performance efficiency, it does not have the discretion to conduct a cost-benefit analysis in establishing the standard.

3. The Statutory Context of Section 316(b) Does Not Support Cost-Benefit Balancing on a Site-Specific Basis

There is also no support for the proposition that a permit writer (either EPA or the state) has "general

authority" to conduct an *additional* cost-benefit analysis in *implementing* an "alternative" to best technology available on a site-specific basis. Entergy Br. 9, 15, 20. Essentially petitioners argue that the section *sub silentio* provides for variances from national performance standards.

Yet unlike other sections in the Act, Section 316(b) does not provide for local variances of any kind, not to mention based on a cost-benefit analysis. When the Clean Water Act provides for local site-specific variances it does so only under limited circumstances, and never based on a local cost-benefit analysis. And as mentioned above, it is assumed intentional when Congress authorizes in one place in the statute what it withholds in another.

In reality, the Clean Water Act severely restricts the extent to which EPA and states may grant variances from technology-based standards in consideration of site-specific conditions. See e.g., 33 U.S.C. §1311(m) (variances from BPT and BCT under limited specified conditions for certain discharges of into "deep waters of the territorial seas."); 33 U.S.C. §1311(g)(1), (2)(A) – (C) (modifications from BPT for certain pollutants); 33 U.S.C. §1311(n) (from BAT due to "fundamentally different factors.") Section 316(b), on the other hand, does not authorize site-specific variances, including those based on a local cost-benefit analysis.

The plain text of Section 316(b) stands in sharp contrast to its immediate neighbor, Section 316(a), which allows for local variance for the discharge of

heated water. 33 U.S.C. § 1326(c).[43] Close comparison of Sections 316(a) and 316(b) supports the notion that Section 316(b) sets national standards, as opposed to allowing local variances based on costs or other factors, not to mention a plenary cost benefit analysis. Section 316(a) allows the *permit writer* (either EPA or an authorized state agency) to issue a variance whenever a permittee demonstrates that a limit on discharge of heated water is more stringent than necessary to assure "a balanced *indigenous* population of shellfish, fish and wildlife *in and on the body of water into which the discharge is to be made.*" 33 U.S.C. § 1316(a) (emphasis added). Section 316(b), on the other hand, requires *EPA* to set BTA to minimize adverse environmental impact whenever it sets national performance based standards under Sections 301 or 306. It does not allow agencies to grant variances from BTA due to consideration of local populations of shellfish, fish, or wildlife, or for any other reason.

These subsections operate differently for good reason: Section 316 is the result of compromise respecting point sources that have intake structures. Environmental Respondents Br. 7-9. The Senate version of the section would have been solely technology-based. The House version would have been solely based on local water conditions. The compromise was to have Sections 316(a) & (c) require

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[43] Section 316(a) governs discharges of "heat," which the Clean Water Act defines as a "pollutant," 33 U.S.C. § 1362(6), and therefore subject to the technology-based standards for point source discharges of pollutants, 33 U.S.C. §§ 1311 (existing sources) & 1316 (new sources).

technology-based standards for discharges of heated water subject to a 10-year variance based on local water conditions, but to have Section 316(b) retain a national technology-based approach for minimizing adverse environmental impact. *Ibid.* This is a sensible compromise that the language of the CWA clearly reflects.

CONCLUSION

For the reasons given above, as well as those expressed in the briefs of respondents and their amici, this Court should affirm the judgment of the Second Circuit.

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